

**ABSTRACT****CHEMICAL MECHANICAL POLISHING THICKNESS CONTROL IN MAGNETIC  
HEAD FABRICATION**

The method for controlling the depth of polishing during a CMP process involves the deposition of a polishing stop layer at an appropriate point in the device fabrication process. The stop layer is comprised of a substance that is substantially more resistant to polishing with a particular polishing slurry that is utilized in the CMP process than a polishable material layer. Preferred stop layer materials of the present invention are tantalum and diamond-like carbon (DLC), and the polishable layer may consist of alumina. In one embodiment of the present invention the stop layer is deposited directly onto the top surface of components to be protected during the CMP process. A polishable layer is thereafter deposited upon the stop layer, and the CMP polishing step removes the polishable material layer down to the portions of the stop layer that are deposited upon the top surfaces of the components. The stop layer is thereafter removed from the top surface of the components. In this embodiment, the fabricated height of the components is preserved.